8. P. U. MORGAN, Polikondensatsionnyye protsessy sinteza polimerov (The Polycondensation Process for Polymer Synthesis). Leningrad, 1970
9. L. B. SOKOLOV, Osnovy sinteza polimerov metodam polikondensatsii (The Basis of the Polycondensation Method of Polymer Synthesis). Moscow, 1979
10. V. V. KORSHAK and S. V. VINOGRADOVA, Neravnovesnaya polikondensatsiya (Non-equilibrated Polycondensation). Moscow, 1972
11. L. V. KOKOREVA and I. I. MALASHININ, Proyektirovaniye bankov dannykh (A Data Banks Project). p. 8, Moscow, 1984
12. O. V. ZHUKOV, Generatsiya programm obrabotki dannykh (Generation of a Data Treatment Program). Moscow, 1976
13. Sbornik nauchnykh programm na Fortran: Rukovodstvo dlya programmista (A Collection of Fortran Scientific Programs: a Programmers' Handbook). vol. I, Moscow, 1974
14. Ye. E. DEMIDENKO, Lineinaya i nelineinaya regressiya (Linear and Non-linear Regression). Moscow, 1981

Polymer Science U.S.S.R. Vol. 30, No. 1, pp. 115–121, 1988
Printed in Poland

0032-3950/88 $10.00+.00

AUTODIFFUSION AND PHASE SEPARATION IN AQUEOUS SOLUTIONS OF POLYOXYPROPYLENE DIOL*

O. E. ZGADZAI, A. I. MAKLAKOV, V. D. SKIRDA and A. YE. CHALYKH

V. I. Ulyanov-Lenin State University, Kazan
Institute of Physical Chemistry, U.S.S.R. Academy of Sciences

(*Received* 18 *July* 1986)

Phase equilibrium in the polyoxypropylene–water system at the lower consolute temperature has been studied by an NMR impulse method and by an interference micro-method. An analysis of the shape of the diffusional attenuations which in this case are complex, and also of the experimentally obtained population values, enabled one to construct the phase diagram in the 250–315°K range. The concentrated polymer phase formed by phase separation consists of polyoxypropylene diol, almost free of water.

THE study of phase equilibria in polymer solutions is a present day problem from both the practical and theoretical point of view. The simplest method of measuring phase transitions in systems which are characterized by amorphic layering is to determine the turbidity point [1]. The macroscopic viscosity of the solutions [2, 3] and the concentration profile in interdiffusion processes [4] are sensitive to phase separation. The change in the dynamic properties of the macromolecule and that of the low MW component during phase separation are successfully recorded over a wide solution

* Vysokomol. soyed. **A30**: No. 1, 104–109, 1988.